

## BONE CONDUCTING FLOATING MASS TRANSDUCERS

### ABSTRACT OF THE DISCLOSURE

A floating mass transducer for assisting hearing in a person is provided. Inertial vibration in the floating mass transducer (100) produces vibrations in the inner ear. In an exemplary embodiment, the floating mass transducer comprises a magnet assembly (12) and a coil (14) secured inside a housing (10) which is attached to bone within the middle ear. The coil is more rigidly secured to the housing than the magnet. The magnet assembly and coil are configured such that conducting alternating electrical current through the coil results in vibration of the magnet assembly and coil relative to one another. The vibration is caused by the interaction of the magnetic fields of the magnet assembly and coil. Because the coil is more rigidly secured to the housing than the magnet assembly, the vibrations of the coil cause the housing to vibrate. The floating mass transducer may generate vibrations in the inner ear by being attached to the skull or through a mouthpiece.

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